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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,203	11/21/2003	David Monroe Bell	GCSD-1461 (51330)	1976
27975 7590 06/18/2007 ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			EXAMINER NGUYEN, CUONG H	
			ART UNIT 3661	PAPER NUMBER
			MAIL DATE 06/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/719,203	Applicant(s) BELL ET AL.	
	Examiner CUONG H. NGUYEN	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/02/2006 (the Appeal Brief).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is the answer to the Appeal Brief received on 3/02/06 which paper has been placed of record in the file.
2. Claims 1-25 are pending in this application.

Response

3. The current examiner reopens prosecution of this application due to the applicants' argument that cited prior art (Kimura) does not use "a line scan camera" for taking road images as claimed. There are many available prior art that show a use of "a line scan camera" in mobile navigation for collecting/sensing information that previous examiner thought this feature is obvious; and one typical example is a prior art of US Pat. 6,766,038 by Sakuma et al.

Claim Objection

4. Claim 10 is unclear because it depends on itself (see claim 10, line 2) – correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 in view of the AIPA and H.R. 2215 that forms the basis for the rejections under this section made in the attached Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

5. Claims 1-2, 8, 19, 21, and 25 are rejected under 35 U.S.C. § 102(e) as being anticipate by Sakuma et al. (US Pat. 6,766,038).

A. As per claim 1: Sakuma et al. teach a data collection system comprising: a positioning system to generate position and time data; a line scan camera for mounting on a vehicle to obtain a series of line scan images (see Sakuma et al., Fig.1 ref. 108-109, Fig. 25, Fig. 26 ref. 3411-3412, and the abstract – note that “a down-looking line scan camera” is structural constructed exactly as a cited line scan camera); and a data collection controller connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data (see Sakuma et al., Fig. 26 ref. 3402, 3404).

B. As per claim 19: The method that comprises steps to obtain claim 1 results by making/using claim 1's system are inherent with Sakuma et al.'s teaching.

C. As per claims 2, and 21: Sakuma et al. also use a database to store line scan images and corresponding data (e.g. accumulated positions, and time data) may be stored in MEMORY IMAGE 103 in FIG.1.

D. As per claims 8, and 25: Sakura also teaches a display device connected to the data collection controller to display the line scan images (see Sakura et al., Fig.1 ref. 104).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 5-6, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Martin (US Pat. 6,243,131)

The rationales and reference for rejection of claim 1 are incorporated.

Sakamura et al. teach a mobile road-centerline data collection and processing system comprising: a vehicle for traveling along a road; a positioning system carried by the vehicle to generate position and time data.

Sakamura et al. do not disclose a down-looking line scan camera with an attached wide-angle lens (i.e., fish eye lens are very wide angle lens with a bulging glass outer element) mounted on the vehicle to obtain a series of line scan images of the road.

However, Martin teaches that limitation (see Martin, col. 1 lines 35-57); and a data collection controller, carried by the vehicle and connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data, the data collection controller comprising an image processor to identify and mark road features in the line scan images.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin's teaching with Sakuma et al.'s line scanning camera for using the Martin's approach for the advantage of using fisheye lens to collect data, and using the desired output picture element in the input memory buffer (they are calculated); and the memorized input data is sequenced through as directed by the distortion correcting calculations.

7. Claims 3, 9-10, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1).

The rationales and reference for rejection of claim 1 are incorporated.

A. As per claim 3: Sakuma et al. do not disclose about using a GPS.

However, Kimura suggests that idea (see Kimura, Fig. 2 “GPS Receiver 23”).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Sakuma et al. ’s teaching with Kimura’s suggestion to obtain positions of related location by an available GPS because that has been a common source to obtain accurate related data.

B. As per claims 9, and 20: The rationales and reference for rejection of claim 1 are incorporated.

Kimura also suggests that an image processor identifies/detects/determines and mark/select a recorded road feature (a line scan image), (see Kimura, para. [0075].

C. As per claim 10: The rationales and references for rejection of claim 1 are incorporated.

Kimura also suggests that an image processor identifies/determine road edges for storing (see Kimura, Figs. 14-15, para. [0075], and a lane marker detector 14).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), and in view of Bennett (US Pat. 6,747,686).

The rationales and references for rejection of claim 3 are incorporated.

Sakuma et al. and Kimura do not disclose an Inertial Navigation System.

However, Bennett discloses a positioning system for a line scan camera to collect necessary data comprises an Inertial Navigation System (INS) (see Bennett, col. 10 lines 39-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al. and Kimura with Bennett to disclose a positioning system comprises an Inertial Navigation System for an advantage of using an available type of dead-reckoning navigational system, which is based on the measurement of vehicle's accelerations.

9. Claims 7, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), further in view of Migdal et al. (US Pat. 5,995,650).

The rationales and reference for rejection of claim 1 are incorporated.

Sakuma et al., and Kimura's references do not disclose a controller comprises: a central processing unit (CPU or processor), and a frame grabber.

However, Migdal et al. suggest that idea (see Migdal et al., col. 12 line 58 to col. 13 line 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al., and Kimura with Migdal et al. to suggest a controller comprises a central processing unit and a frame grabber for the advantage of using a video controller having a frame grabber which enables the controller to accept collected images of video information and process it.

11. Claims 11-13, and 15-16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), and in view of Martin (US Pat. 6,243,131).

The rationales and reference for rejection of claim 1 are incorporated.

A. As per claim 11: This claim is directed to a mobile data collection system, all the limitations in claim 11 are made by incorporating limitations from claims 1, 5, and 9; therefore, rationales and references for rejection of claim 11 are incorporated.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin and Kimura 's teachings with Sakuma et al.'s line scanning camera for a digital line scan camera having an attached wide-angle lens, and an image processor to identify and mark road features in the line scan images for an advantage of using a well-known and conventional distortion correcting calculations for used image processor.

B. As per claim 12: Sakuma et al. also use a database to store line scan images and corresponding data (e.g. accumulated positions, and time data) may be stored in MEMORY IMAGE 103 in FIG.1.

C. As per claim 13: Sakuma et al. do not disclose about using a GPS.

However, Kimura suggests that idea (see Kimura, Fig. 2 "GPS Receiver 23").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Sakuma et al., and Martin 's teachings with Kimura's suggestion to obtain positions of related location by an available GPS for the advantage of using a reliable source for obtaining position data.

D. As per claim 15: The rationales and reference for rejection of claim 11 are incorporated.

Sakuma et al. do not disclose a digital line scan camera and an attached wide-angle lens.

However, Martin teaches that limitation (as above see Martin), and fish eye lens are wide angle lens as noted above (claims 5-6, and 11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin's teaching with Sakuma et al.'s line scanning camera for a digital line scan camera having an attached wide-angle lens for an advantage of using a well-known and conventional distortion correcting calculations.

E. As to claim 16: The rationales and reference for rejection of claim 11 are incorporated.

Sakamura et al. teach a mobile road-centerline data collection and processing system comprising: a vehicle for traveling along a road; a positioning system carried by the vehicle to generate position and time data.

Sakamura et al. do not disclose a down-looking line scan camera with an attached wide-angle lens (i.e., fish eye lens are very wide angle lens with a bulging glass outer element) mounted on the vehicle to obtain a series of line scan images of the road.

However, Martin teaches that limitation (see Martin, col. 1 lines 35-57); and a data collection controller, carried by the vehicle and connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data, the data collection controller comprising an image processor to identify and mark road features in the line scan images (note that these limitations are already obvious in cited references).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin's teaching with Sakuma et al.'s line scanning camera for using the Martin's approach for the advantage of using fisheye lens to collect data, and using the desired output picture element in the input memory buffer (they are calculated); and the memorized input data is sequenced through as directed by the distortion correcting calculations.

F. As per claim 18: Sakura also teaches a display device connected to the data collection controller to display the line scan images (see Sakura et al., Fig.1 ref. 104).

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), in view of Martin (US Pat. 6,243,131), and in view of Bennett (US Pat. 6,747,686).

The rationales and references for rejection of claim 13 are incorporated.

Sakuma et al. and Kimura do not disclose an Inertial Navigation System.

However, Bennett discloses a positioning system for a line scan camera to collect necessary data comprises an Inertial Navigation System (INS) (see Bennett, col. 10 lines 39-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al., Martin and Kimura with Bennett to discloses a positioning system comprises an Inertial Navigation System for an advantage of using an available type of dead-reckoning navigational system, which is based on the measurement of vehicle's accelerations.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), further in view of Migdal et al. (US Pat. 5,995,650).

The rationales and reference for rejection of claim 11 are incorporated.

Sakuma et al., and Kimura's references do not disclose a controller comprises: a central processing unit (CPU or processor), and a frame grabber.

However, Migdal et al. suggest that idea (see Migdal et al., col. 12 line 58 to col. 13 line 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al., and Kimura with Migdal et al. to suggest a controller comprises a central processing unit and a frame grabber for the advantage of using a video controller having a frame grabber which enables the controller to accept collected images of video information and process it.

Conclusion

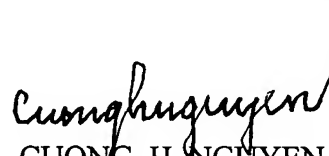
14. Claims 1-25 are not patentable.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-272-6759 (email address: cuong.nguyen@uspto.gov). The examiner can normally be reached on 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6759.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please provide support, with page and line numbers, for any amended or new claim in an effort to help advance prosecution; otherwise any new claim language that is introduced in an amended or new claim may be considered as new matter, especially if the Application is a Jumbo Application.


CUONG H. NGUYEN
Primary Examiner
Art Unit 3661